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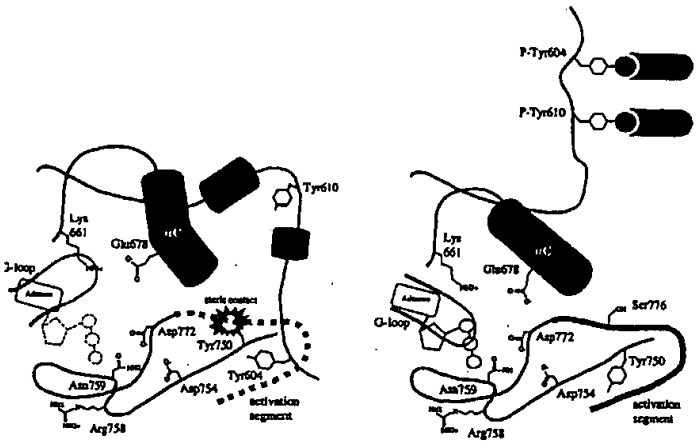
(54) Title: COMPOSITIONS AND METHODS FOR REGULATING THE KINASE DOMAIN OF RECEPTOR TYROSINE KINASES



Unphosphorylated, autoinhibited EphB2

Phosphorylated, active EphB2

(57) **Abstract:** The present invention relates to binding pockets of receptor tyrosine kinases (RTKs). The binding pockets may regulate the kinase domain of the receptor tyrosine kinases. In particular, the invention relates to a crystal comprising a binding pocket of a receptor tyrosine kinase that regulates the kinase domain of the receptor tyrosine kinase. The crystal may be useful for modeling and/or synthesizing mimetics of a binding pocket or ligands that associate with the binding pocket. Such mimetics or ligands may be capable of acting as modulators of receptor tyrosine kinase receptor activity, and they may be useful for treating, inhibiting, or preventing diseases modulated by such receptors. Methods are also provided for regulating the kinase domain of an RTK by changing a binding pocket of the RTK that regulates the kinase domain from an autoinhibited state to an active state or from an active state to an autoinhibited state.

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